CLAIMS

What is claimed is:

1. A drive roller assembly for a mobile robot, comprising:

a drive ball;

a transmission roller that is in continuous contact with said drive ball; and,

a drive mechanism coupled to said transmission roller.

2. The assembly of claim 1, wherein said drive mechanism includes a motor.

3. The assembly of claim 1, wherein said transmission roller is attached to a bracket.

4. The assembly of claim 3, wherein said bracket has a groove in an outside surface that allows a portion of said transmission roller to make contact with said drive ball.

5. The assembly of claim 3, wherein said drive mechanism includes a pulley that is coupled to a motor and said bracket.

6. The assembly of claim 1, wherein said transmission roller includes an addendum roller attached to a primary roller.

7. A drive roller assembly for a mobile robot, comprising:

a drive ball;

a transmission roller that is in continuous contact with said drive ball; and,

drive means for rotating said transmission roller and driving said drive ball.

8. The assembly of claim 7, wherein said drive means includes a motor.

9. The assembly of claim 7, wherein said transmission roller is attached to a bracket.

10. The assembly of claim 9, wherein said bracket has a groove in an outside surface that allows a portion of said transmission roller to make contact with said drive ball.

11. The assembly of claim 9, wherein said drive means includes a pulley that is coupled to a motor and said bracket.

12. The assembly of claim 7, wherein said transmission roller includes an addendum roller attached to a primary roller.

13. A method for operating a roller assembly for a mobile robot, comprising:

rotating a transmission roller that is in continuous contact with a drive ball to rotate the drive ball.

14. A mobile robot, comprising:

a first drive roller assembly that includes;

a drive ball;

a transmission roller that is in continuous contact with said drive ball;

a drive mechanism coupled to said transmission roller;

a pedestal coupled to said first drive roller assembly;

a camera coupled to said pedestal; and,

a screen coupled to said pedestal.

15. The robot of claim 14, wherein said drive mechanism includes a motor.

16. The robot of claim 14, wherein said transmission roller is attached to a bracket.

17. The robot of claim 16, wherein said bracket has a groove in an outside surface that allows a portion of said transmission roller to make contact with said drive ball.

18. The robot of claim 16, wherein said drive mechanism includes a pulley that is coupled to a motor and said bracket.

19. The robot of claim 14, wherein said transmission roller includes an addendum roller attached to a primary roller.

20. The robot of claim 14, further comprising a second drive roller assembly and a third drive roller assembly.

21. The robot of claim 14, wherein said pedestal includes a pivot drive mechanism that is coupled to said camera and said screen, and a swivel drive mechanism that is coupled to said camera and said screen.

22. A mobile robot, comprising:

a first drive roller assembly that includes;

a drive ball;

a transmission roller that is in continuous contact with said drive ball;

drive means for rotating said transmission roller and driving said drive ball;

a pedestal coupled to said first drive roller assembly;

a camera coupled to said pedestal; and,

a screen coupled to said pedestal.

23. The robot of claim 22, wherein said drive means includes a motor.

24. The robot of claim 22, wherein said transmission roller is attached to a bracket.

25. The robot of claim 24, wherein said bracket has a groove in an outside surface that allows a portion of said transmission roller to make contact with said drive ball.

26. The robot of claim 24, wherein said drive means includes a pulley that is coupled to a motor and said bracket.

27. The robot of claim 22, wherein said transmission roller includes an addendum roller attached to a primary roller.

28. The robot of claim 22, further comprising a second drive roller assembly and a third drive roller assembly.

29. The robot of claim 22, wherein said pedestal includes pivot means for pivoting said camera and said

screen, and swivel means for swiveling said camera and said screen.

30. A method for operating a mobile robot, comprising:

generating an output signal to move a robot;

rotating a transmission roller that is in continuous contact with a drive ball to rotate the drive ball in response to the output signal.

31. The method of claim 30, further comprising swiveling a camera and a screen of the robot and pivoting the camera and the screen.

32. A drive roller assembly for a mobile robot that moves across a surface, comprising:

a roller that is in continuous contact with the surface;

a bracket coupled to said roller; and,

a drive mechanism coupled to said bracket.

33. The assembly of claim 32, wherein said drive mechanism includes a motor.

34. The assembly of claim 32, wherein said bracket has a groove in an outside surface that allows a portion of said roller to make contact with the surface.

35. The assembly of claim 32, wherein said drive mechanism includes a pulley that is coupled to a motor and said bracket.

36. The assembly of claim 32, wherein said roller includes an addendum roller attached to a primary roller.

37. A drive roller assembly for a mobile robot that moves across a surface, comprising:

a roller that is in continuous contact with the surface;

a bracket coupled to said roller; and,

drive means for rotating said bracket and said transmission roller.

38. The assembly of claim 37, wherein said drive means includes a motor.

39. The assembly of claim 37, wherein said bracket has a groove in an outside surface that allows a portion of said transmission roller to make contact with the surface.

40. The assembly of claim 37, wherein said drive means includes a pulley that is coupled to a motor and said bracket.

41. The assembly of claim 37, wherein said transmission roller includes an addendum roller attached to a primary roller.

42. A method for operating a drive roller assembly for a mobile robot that moves across a surface, comprising:

rotating a roller that is supported by a bracket, and is in continuous contact with the surface.